

ABSTRACT

A system and method for interrogating a passive acoustic transponder, producing a transponder signal having characteristic set of signal perturbations in response to an interrogation signal, comprising a signal generator, producing an interrogation signal having a plurality of differing frequencies; a receiver, for receiving the transponder signal; a mixer, for mixing the transponder signal with a signal corresponding to the interrogation signal, to produce a mixed output; an integrator, integrating the mixed output to define an integrated phase-amplitude response of the received transponder signal; and an analyzer, receiving a plurality of integrated phase-amplitude responses corresponding to the plurality of differing frequencies, for determining the characteristic set of signal perturbations of the passive acoustic transponder.